
This chapter is dedicated to my colleagues, family and, most of all, my mother's enduring support; my fellow Student Assistance Counselors who promote healthy lifestyles; my wrestling coaches – especially Warren Reid and Rich Lorenzo – each of whom embodied what role models should be; and finally, those who advocate and strive to enjoy life and live it well but don't endanger themselves or others. May this chapter help you on your journey.

Chapter 19

Alcohol and Fitness

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What impact does alcohol have on fitness? Look at the advertisements for alcohol on billboards, television commercials and magazines. They depict beautiful, athletic people playing volleyball, swimming and doing other activities with near-perfect bodies, each revealing their own "six pack." This leads people to believe that they can obtain the same thing from drinking a certain type of alcoholic beverage.

First, you must consider your goals. Is it to improve your overall fitness? Or is it to enhance your physical performance? Is this goal just one of many things that you're balancing? Are you trying to find the time to build "fitness" into your daily or weekly schedule? Where does recreation fit into your schedule and is alcohol a large part of your social life?

When taking all of this information into consideration, it may be helpful to moderate alcohol intake. Let's take a closer look at the facts surrounding the intake of alcohol and how it affects your goals and performance.

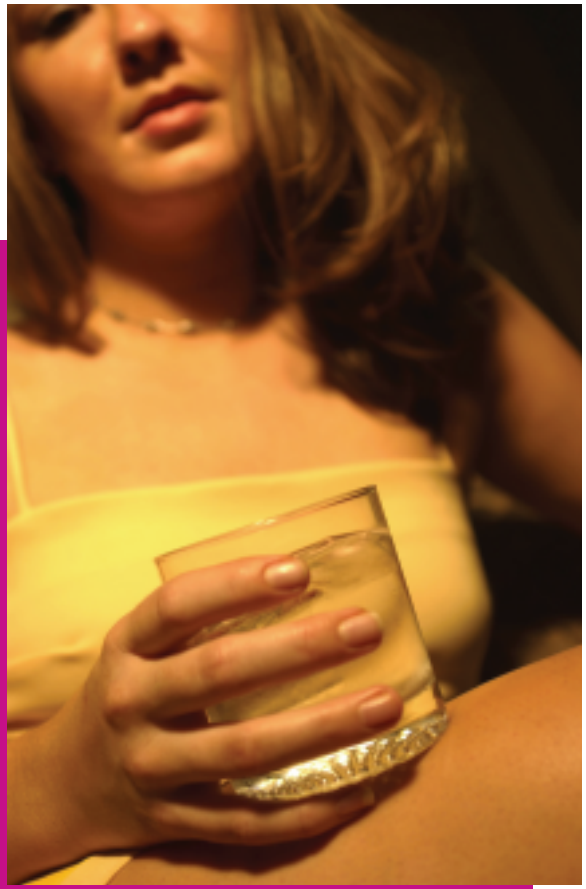
TERMINOLOGY

What's meant by the term "alcohol"? In general, the percentage of alcohol in a drink is as follows:

- **Wine (fermented fruit) is 12% alcohol (except for fortified wine).**
- **Beer (fermented grains) is 4 to 7% alcohol.**
- **Distilled spirits (liquors/whiskeys) is 35 to 45% alcohol.**
- **A 5-ounce glass of wine, a 12-ounce bottle of beer and a 1.5-ounce shot of liquor all have equivalent amounts of alcohol and each is considered to be "one drink."**

As alcohol manufacturers become more creative in marketing their products, checking labels for alcohol content/proof is increasingly important. Here are several additional points about beer:

- **Light beer has 25 to 30% fewer calories and up to 10% less alcohol than regular beer.**
- **Microbrews often contain higher percentages of alcohol.**
- **Non-alcoholic beer is less than 0.5% alcohol.**
- **One regular beer has 13 grams of alcohol while a six-pack of non-alcoholic beer has 6 grams of alcohol.**



If you're "watching your weight," know that the calories that come from alcohol have no significant nutritional value.

What's moderation? The current literature states that non harmful or "safer" drinking is a maximum of one drink per day for women and two drinks per day for men. Pregnant women and their fetuses are the safest when the mother doesn't drink at all.

When a person consumes alcohol, it's primarily absorbed in the stomach and small intestine. A small amount is eliminated through the lungs, perspiration, saliva and urine. But the vast majority of alcohol flows through the body. Once the alcohol reaches the brain, it impacts on the body chemicals and causes functional changes.

Absorption Rate

As alcohol travels to the brain, it's metabolized by the liver at the rate of about one drink per hour. But how quickly it's absorbed, known as the "absorption rate", is actually influenced by many variables. These variables must be considered in determining when and how much a person may drink. For example, the absorption rate is affected by outside temperature. In warm weather, alcohol dehydrates the body faster. So the absorption rate is greater in warm temperatures than in cold temperatures. On hot days or in warm climates, be aware that the absorption rate may be unpredictable.

The absorption rate is also affected by the . . .

- **amount that the person drinks**
- **size of the person**
- **age of the person**
- **gender of the person**
- **body fat of the person**
- **emotional state of the person**
- **drinking experience of the person**
- **amount of food in the stomach**
- **other medications or drugs that may be taken by the person**

Blood Alcohol Concentration

How do you measure the amount of alcohol in someone's system? A scientific measure is the blood alcohol concentration (BAC). This is significant for all who drink but most vital for inexperienced and/or young drinkers. The legal limit for the BAC was 0.10. However, it has been recognized that coordination, particularly in skills such as driving, can be impaired before the BAC reaches 0.10. As a result, many states, including New Jersey, have lowered the BAC to 0.08. Those who aren't accustomed to drinking have no experience with the amount of alcohol that will impair them. A 150-pound male who has two drinks within an hour will have a BAC of 0.05 to 0.07 for two

hours. It takes about three hours for the body to eliminate one ounce of pure alcohol, or about one-third of an ounce per hour. But again, the actual numbers are based on the "absorption rate." (For more information about the BAC, go to www.baczone.biz. You can access a BAC calculator at www.ou.edu/oupd/bac.htm.)

When a person drinks alcohol, there's a delayed effect: It takes 15-20 minutes for the alcohol to reach the brain and 30-40 minutes for the peak BAC level to be attained. "Happy Hour" has become synonymous with relaxing and forgetting work problems on late Friday afternoons. People often drink quickly and tend to delay eating their evening meals, hoping to catch "the buzz" as soon as possible. Remember, though, that the absorption rate controls the length of the "delayed effect." Another consideration is that drinking prior to working out may lead to some surprises simply because the "delayed effect" may not appear until the participant is in the middle of the activity.

SOCIAL EFFECTS AND CONSEQUENCES

If you're looking to enjoy yourself, alcohol is often considered to be a "social lubricant." Since alcohol lowers inhibitions, increases self confidence and promotes communication, it's almost a self-prescribed drug for those who feel socially ill at ease. Moreover, it's often perceived as a necessary ingredient of "successful" parties. Yet, alcohol may affect common sense and/or cause a person to misinterpret social cues. However, alcohol is a double-edged sword in that it may lessen tension and anxiety but once a certain point passes, this effect may cloud decision-making and result in asking yourself the next morning, "How did I ever do that"? Or, worse yet, "I did that?"

GENDER CONSIDERATIONS

Women absorb alcohol faster than men and get a higher BAC on less alcohol. The reason for this is that women have a lower percentage of body water compared to men. In addition, they have less active alcohol dehydrogenase, an enzyme in the stomach that breaks down alcohol. Predicting how alcohol may affect women is further complicated by the fact that changes in their hormonal levels alter the effects of alcohol. (Premenstrual drinking has a greater effect.) Women also absorb alcohol more quickly when taking birth control pills. Lastly, alcohol is marketed to women far more today

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than in the past. For years, the marketing of alcohol has portrayed men as athletes and women as objects of desire; a more recent tactic is to depict women as successful in business. Clearly, the female market is in great demand.

So how does this affect women and fitness? Women who drink and want to know how it will affect them have to take into account more variables than men do. The fact of the matter is that women cannot predict the effects of alcohol by watching men drink the same amount. Women who work out and drink need to take into consideration the variability of these factors.

OLDER ADULTS

In terms of alcohol (and other drug) use, older adults are a missed generation. Yet, alcohol carries definite warnings for this population. First of all, as people age, their ability to metabolize alcohol decreases. In addition, many older adults use numerous prescribed medications – a "tackle box of meds" – and the combination of these with alcohol is often synergistic, resulting in severe consequences. Understanding these body changes should help to familiarize a person with the effects of alcohol and maximize their fitness regimen.

NUTRITION, FITNESS AND PERFORMANCE

Alcohol is a source of calories but the calories are "empty." If you're "watching your weight," know that the calories that come from alcohol have no significant nutritional value. Alcohol may give you energy but, similar to "junk food," it merely provides a quick fix – and maybe not even that. And although alcohol only has empty calories, it does stimulate appetite. Alcohol increases the gastric juices in the stomach, causing hunger so that the urge to "nibble" more empty calories may become hard to control.

Understand, too, that alcohol has a damaging effect on key nutrients. The calories that are provided by alcohol are poor sources of energy; the preferred sources are carbohydrates and fats. In a sense, alcohol slices the fuel lines to the muscles. Alcohol cannot be metabolized into sugar and it interferes with the liver's ability to make the sugar that the muscles need to do work. As blood sugar goes down, so does energy and endurance. Simply stated, alcohol isn't a good fuel for exercise no matter the name of the drink or the implications of the billboards.

Alcohol calms, sedates, reduces tension and relaxes. Because of this, it decreases accuracy, balance and reaction time; slows

visual tracking and information processing; and decreases strength, power and muscular endurance. Even having a low BAC (0.02 to 0.05; about one to two drinks) can impair physical performance. This can last several hours after the blood alcohol has gone down. A low BAC can also alter mood and self-perception. Thus, individuals may not be aware that their ability is impaired. Providing a false confidence, this sensation is similar to the expressions "liquid confidence" and "beer muscles."

The use of alcohol can also cause nystagmus, an eye condition that's characterized by involuntary tics of the pupils as they move or even when they're not moving. Naturally, this can have a serious impact on vision and performance. An example is a field sobriety test, in which police officers have individuals try to follow the movement of a pen. Often, a person is unaware that there's any impairment. Nystagmus can alter the body's ability to respond by interfering with reaction time and coordination. For instance, it may make the difference between swinging and missing a fastball or getting a base hit. Hence, this is one of the reasons for signs and labels that say, "Do Not Operate under the Influence of Alcohol or Other Drugs."

Dehydration

Alcohol is a diuretic; it increases the flow of urine. This may account for many years of classic statements from young, top-notch athletes who've said, "You won't gain weight from drinking alcohol because you'll pee it all out."

The truth is that alcohol doesn't replace water or other fluids that are needed for proper hydration. In fact, alcohol increases fluid loss through the kidneys, making it more likely that an individual will become dehydrated. Dehydration is a concern before, during and after physical activity. For athletes or those who are balancing life's demands and strive to stay reasonably fit, consider this:

- **The body can absorb about one quart of water per hour.**
- **During exercise, the body may easily lose more than one quart of water per hour.**
- **Alcohol dehydrates the body and lowers water levels.**

Obviously, dehydration can impair performance and cause problems such as cramps and fatigue as well as heat exhaustion and heat stroke. It's imperative that an individual hydrates adequately with water. This is even more critical for someone who's

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trying to lose weight or maintain a specific weight. Those who are physically active and prone to pushing their bodies to excel during the summer months of New Jersey should recognize that alcohol doesn't fit the bill for fluid intake and may cause problems.

One final point: After exercising, absorption rates may change and the effect of alcohol might not be what someone expects.

Accidents and Injuries

An injury is almost as likely to occur with light and moderate drinking as it is with heavy drinking. And if a person is injured, alcohol inhibits the degree of healing. The use of alcohol tends to inflame bruised tissues, slowing down the healing process. So, alcohol use, even six hours prior to an activity, not only places the individual at risk for injury but also inhibits recovery. This is a consideration for those who are trying to improve performance, especially if they're older.

CELEBRATION

Alcohol is almost synonymous with victory. When a team wins a championship, the television often depicts scenes of the athletes and their coaches drinking bottles of champagne and celebrating in a shower of it. And how many viewers join in the celebration, offering toasts to their favorite teams? In the spirit of the moment, the numerous toasts may affect a person's ability to make decisions. Enjoy the victory but keep in mind that losing control could detract from the celebration.

FEELING WARM?

Alcohol causes the blood vessels to dilate. When this happens, the blood flow to subcutaneous tissues increases, causing a feeling of warmth. But the body's core temperature drops and vital functions are impacted. In cold weather, staying warm during athletic events is a challenge. Drinking alcohol can be a poor choice. If drinking becomes heavier, that "feeling of warmth" may result in broken blood capillaries and produce the drinker's "red nose." (Over time, you can actually see this with heavier drinkers.)

SLEEP

Many active individuals simply don't get a good night's sleep. Knowing that alcohol lessens tension and helps relaxation, it's assumed that a drink would do the trick. Although people may sleep well in the initial part of rest, alcohol disrupts rapid-eye movement (REM) sleep. The result is that they lie awake in the early morning hours, counting endless herds of sheep. So as an aid to sleeping, alcohol isn't successful. People don't realize the magnitude of a good night's sleep until they finally get one.

HEALTH AID?

Have you heard that a drink a day keeps the heart pumping? Recent research claims that moderate alcohol use – one drink per day for women and two for men – has a positive influence on the clotting mechanism of blood. At first glance, this appears to justify the fact that alcohol is beneficial to a healthy heart. Closer inspection of this research shows that the benefits are restricted to men who are more than 40 years old and postmenopausal women. Also keep in mind that two other studies found that this evidence was inconclusive. And research has proven that daily drinking is a definite risk factor for breast cancer.

LAST CALL

Alcohol has been called "an ambiguous molecule." Our society has varied responses to alcohol. For optimum results, each individual needs to review the latest research and factor in their individual and personal criteria in order to make "the best" decision. Moderation can work for many and for some, it's one day at time.

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